

ABSTRACT

In a gas sensor, at least three levels of current are supplied to a heating element successively in a step-like manner for a predetermined time period. An arithmetic unit receives both-end voltages of the heating element for the respective current after elapse of the predetermined time period and calculates temperature from the both-end voltage of the heating element obtained when the lowest current flows. Then, the arithmetic unit corrects the both-end voltages of the heating element using the calculated temperature, a zero-point correction equation and a sensitivity correction equation to obtain respective standardized output values. Subsequently, the arithmetic unit calculates humidity based on the difference between the standardized output values, and corrects the standardized outputs based on the calculated humidity and humidity correction equations. By this method, the arithmetic unit calculates concentration of detection target gas.